



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,419	10/11/2001	Sung-Jin Kim	678-753 (P9929)	9087
28249	7590	06/30/2006	EXAMINER	
DILWORTH & BARRESE, LLP 333 EARLE OVINGTON BLVD. UNIONDALE, NY 11553			LEE, ANDREW CHUNG CHEUNG	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary

Application No.

09/975,419

Applicant(s)

KIM ET AL.

Examiner

Andrew C. Lee

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4, 5, 24 and 25 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 3, 21, 22, 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. With regard to the Election/Restriction filed on 3/20/2006, Applicant elected, without traverse, Group I containing 1 – 5, and 21 – 25, for further prosecution.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 21, 2, 22, 3, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narvinger et al. (6868075 B1) in view of Hirsch (6442193 B1).

Regarding claims 1, 21, Narvinger et al. disclose the limitation of a Node B apparatus having at least two antennas, for controlling a diversity of data transmitted through the antennas (recited “elements 105 and 101” as a node B apparatus having a least two antennas; Fig. 1(a), column 1, lines 24 – 34; recited “to form ATM connections over landlines or links to base stations” as controlling a diversity of data transmitted through the antennas; column 1, lines 24 – 34) comprising: a first spreader for spreading first data and outputting a first spread signal (recited “elements DPDCH₁ 53, 55, as first spreader, DPDCH_n is spread to chip rate by the channelization code C_{d,n}” as for spreading first data and outputting a first spread signal; Fig. 14, column 18, lines 14 – 33) a second spreader for spreading second data and outputting a second spread signal (recited “elements DPDCH₂ 53, 55, as second spreader, DPDCH_n is spread to chip rate by the channelization code C_{d,n}” as for spreading second data and outputting a second spread signal; Fig.

Art Unit: 2616

14, column 18, lines 14 – 33); a first multiplier (Fig. 14, “element 55 of DPDCH₁” as first multiplier) for multiplying a first weight (Fig. 14, elements DPDCH₁, 53, 55, “the real-valued spread signals are weighted at 55 by gain factors β_d ” as multiplying a first weight) for a first antenna by the first spread signal output from the first spreader, and outputting a first weighted spread signal (Fig. 14, column 18, lines 14 - 42); a second multiplier (Fig. 14, “element 55 of DPDCH₂” as second multiplier) for multiplying a second weight (Fig. 14, elements DPDCH₂, 53, 55, “the real-valued spread signals are weighted at 55 by gain factors β_d ” as multiplying a second weight) for a second antenna by the first spread signal output from the first spreader, and outputting a second weighted spread signal (Fig. 14, column 18, lines 14 - 42); a third multiplier (Fig. 14, “element 55 of DPDCH₃” as third multiplier) for multiplying a third weight Fig. 14, elements DPDCH₃, 53, 55, “the real-valued spread signals are weighted at 55 by gain factors β_d ” as multiplying a second weight) for the first antenna by the second spread signal output from the second spreader, and outputting a third weighted spread signal (Fig. 14, column 18, lines 14 - 42); ; a fourth multiplier (Fig. 14, “element 55 of DPDCH₄” as fourth multiplier) for multiplying a fourth weight (Fig. 14, elements DPDCH₄, 53, 55, “the real-valued spread signals are weighted at 55 by gain factors β_d ” as multiplying a fourth weight) for the second antenna by the second spread signal output from the second spreader, and outputting a fourth weighted spread signal (Fig. 14, column 18, lines 14 - 42); and a weight generator for determining the first to fourth weights from feedback information received from a UE (User Equipment), and providing the determined first to fourth weights to the first to fourth multipliers, respectively (recited “the complex-valued chip sequence generated by the spreading process, and after being spread and modulated, the uplink DHDCP and DHCCPs are transmitted from MS to BS” as a weight generator for determining the

Art Unit: 2616

first to fourth weights from feedback information received from a UE (User Equipment), and providing the determined first to fourth weights to the first to fourth multipliers, respectively; column 18, lines 42 – 54). Narvinger et al. do not disclose explicitly a first adder for adding the first weighted spread signal to the third weighted spread signal, and transmitting the added signal through the first antenna; a second adder for adding the second weighted spread signal to the fourth weighted spread signal, and transmitting the added signal through the second antenna. Hirsch discloses the limitation of explicitly a first adder (Fig. 8, element 81, combiner as a first adder) for adding the first weighted spread signal (“output from element 92 with $WLS \oplus PN_I$ ” as the first weighted spread signal) to the third weighted spread signal (“output from element 87 with weight $WLS \oplus PN_Q$ ” as the third weighted spread signal, and transmitting the added signal through the first antenna (output from element 82 as transmitting the added signal through the first antenna); a second adder (Fig. 8, element 84, combiner as a first adder) for adding the second weighted spread signal (“output from element 86 with $WLS \oplus PN_Q$ ” as the second weighted spread signal) to the fourth weighted spread signal (“output from element 93 with $WLS \oplus (-PN_I)$ ” as the fourth weighted spread signal), and transmitting the added signal through the second antenna (output from element 85 as transmitting the added signal through the second antenna). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Narvinger et al. to include a first adder for adding the first weighted spread signal to the third weighted spread signal, and transmitting the added signal through the first antenna; a second adder for adding the second weighted spread signal to the fourth weighted spread signal, and transmitting the added signal through the second antenna such as that taught by Hirsch in order to provide a spread spectrum communication device in which, at a sub-chip resolution, multipath

Art Unit: 2616

components of a received modulated spread spectrum signal are efficiently combined, and in which, preferably, a signal-to-noise ratio in a received signal is optimized (as suggested by Hirsch, see column 3, lines 45 – 50).

Regarding claims 2, 22, Narvinger et al. disclose the limitation of the Node B apparatus as claimed in claimed wherein the feedback information is FBI (feedback information) of an uplink dedicated physical control channel (UL-DPCCH) received from the UE (recited “the uplink DPCCH (control channel) is generally used to carry control information generated at layer 1 including FBI; column 6, lines 13 – 22).

Regarding claims 3, 23, Narvinger et al. disclose the limitation of the Node B apparatus as claimed in claimed wherein the first data is dedicated physical channel (DPCH) data (recited “downlink dedicated Physical Channel (downlink DPCH)” as data is dedicated physical channel (DPCH) data; column 5, line 4, column 6, line 1, column 7, lines 19 – 15) and the second data is physical downlink shared channel (PDSCH) data (recited “PDSCH” as physical downlink shared channel; column 5, line 15).

Allowable Subject Matter

4. Claims 4, 24 are allowed over prior art.

Additionally, all of the further limitations in claims 5, 25 are allowable since the claims are dependent upon the independent claims 4, 24, respectively.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclose.

Mate et al. US Patent Number 6970438 B2 disclose downlink packets witching for use in a mobile telecommunications network having a plurality of base stations capable of communicating in corresponding uplink and downlink with a plurality of mobile terminals operating in a frequency division duplex (FDD) mode.

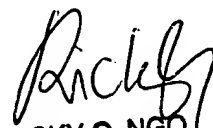
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ACL

June 21, 2006


RICKY Q. NGO
SUPERVISORY PATENT EXAMINER